

## INSTALLATION AND OPERATING INSTRUCTIONS

The gasket seal located between the main body casting and the lid casting is a cork-rubber composition, which is subject to a slight creep for a short period after application of the initial clamping load. All gaskets are properly clamped before shipment, however during shipping and storage, the gasket may compress, allowing the body-lid clamp bolts to become slightly loose. Tighten these bolts before assembling the flow switch in-system. No further creep of gasket will occur after second tightening. The Q-5 fluid flow switch is supplied with a male 1" NPT which is threaded into an appropriate pipe tee, large pipe with reducer bushing, or directly into a hole threaded 1" NPT in the wall of the pipe. Turn until tight and arrow on body casting is pointed in direction of flow.

## ELECTRICAL WIRING

FIGURE 1: Wiring schematic for power applied to load when flow is GREATER than the set point (power to load interrupted when flow is LESS than set point).

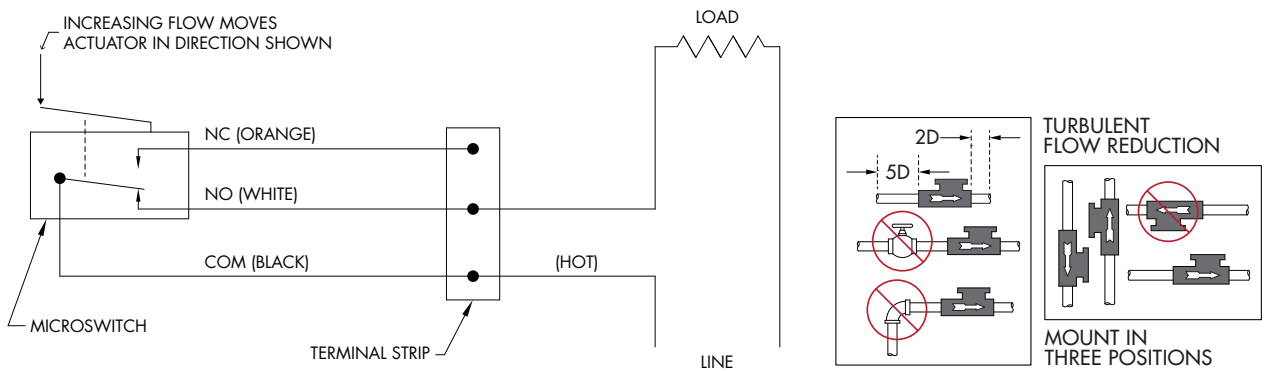
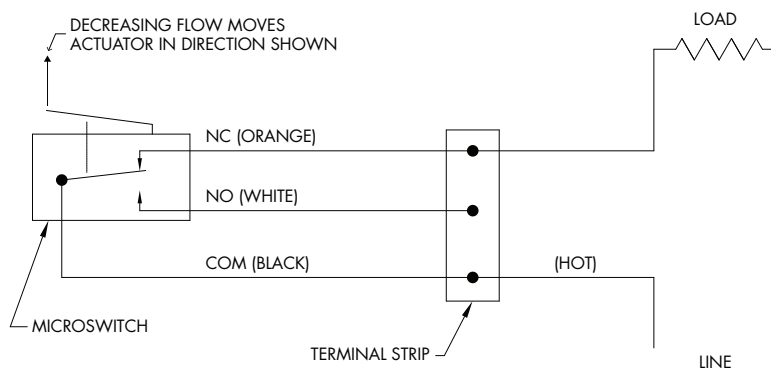
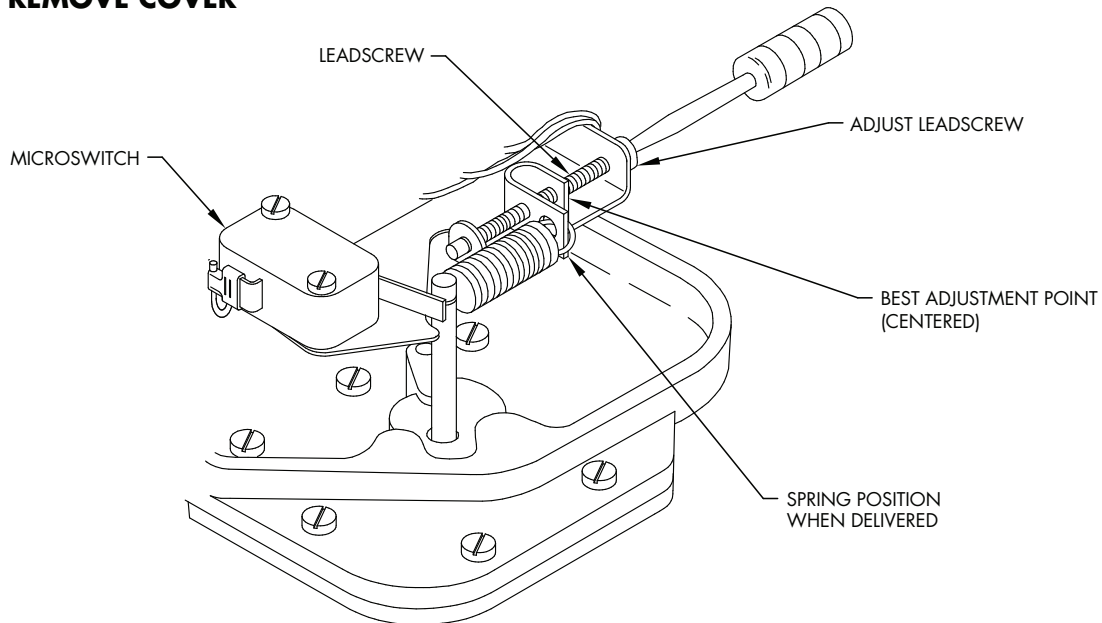


FIGURE 2: Wiring schematic for power applied to load when flow is LESS than the set point (power to load interrupted when flow is GREATER than set point).



## Q-5 FLOW SWITCH OPERATIONAL ADJUSTMENT

### REMOVE COVER



## SWITCH POINT ADJUSTMENT

1. Remove cover.
2. Adjust fluid flow in system to desired rate **WITHOUT** regard to Q-5 switch point setting.
3. The switch point adjusting mechanism consists of an adjusting screw, a "U" shaped lead screw nut, and a helical spring.

CLOCKWISE rotation of the adjusting screw changes the microswitch actuation point toward **HIGHER** flow rates.

NOTES: All Q-5 units are factory set at the lower end of the flow range, e.g. the adjusting screw is set at the low flow counter-clockwise position.

The lead screw nut locks the adjusting screw in position, maintaining the flow switch set point under all environmental conditions.

4. Turn the adjusting screw in a clockwise direction until the microswitch is actuated, while maintaining the desired fluid flow rate in the system. Turn the adjusting screw **TWO (2)** additional turns in the clockwise direction and then slowly back off in a counter-clockwise direction, until the microswitch is again actuated. The Q-5 flow switch is now set for maximum sensitivity for detecting small flow changes.
5. When set for maximum sensitivity (100% point) as described above, flow turbulence may cause rapid on/off switching (dithering) of the microswitch contacts, resulting in reduced switch contact life

# MODEL Q-5

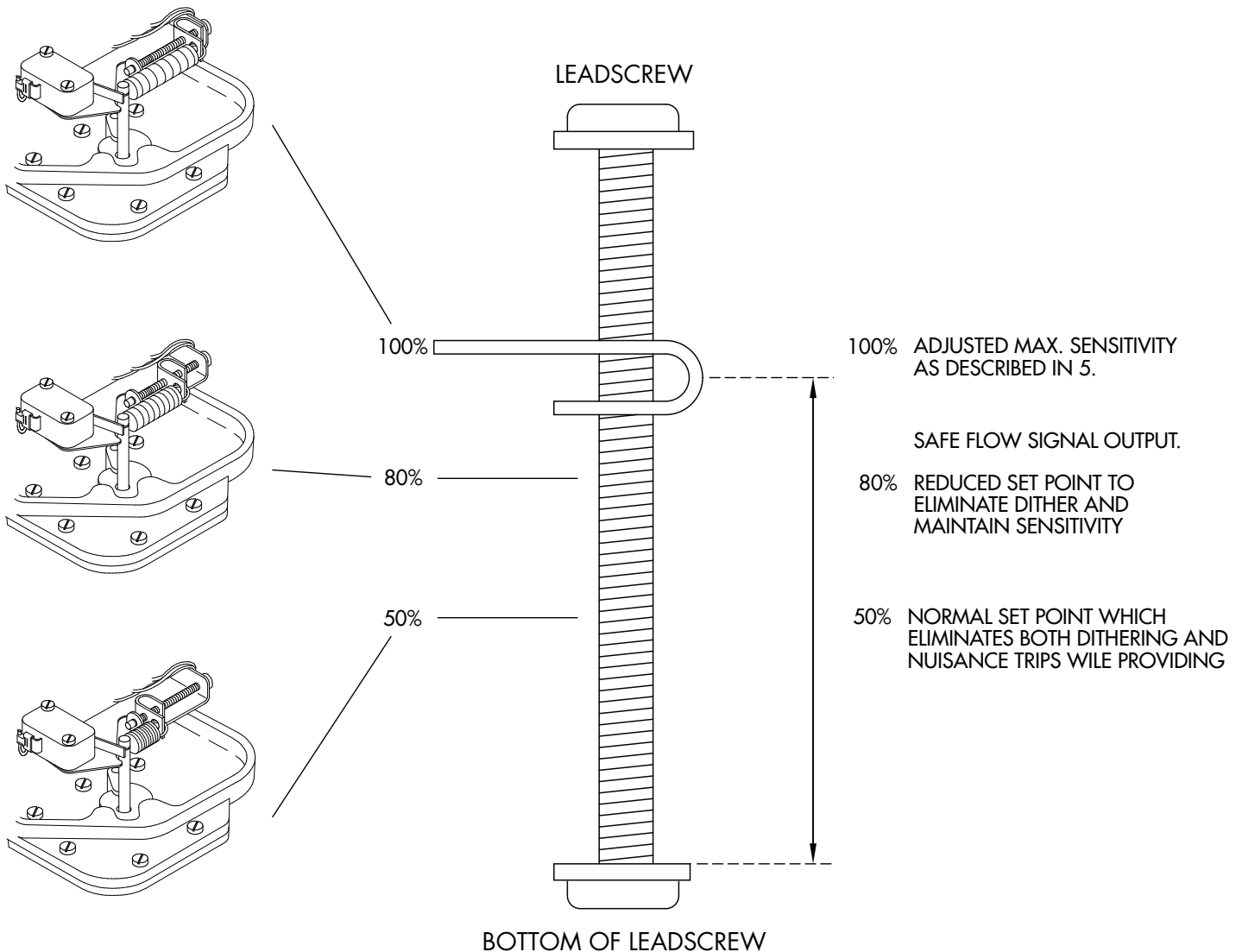
Q-5, Q-5SS, QD-5, QD-5SS

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and "noise" in the electrical circuit. This is eliminated by turning the adjusting screw in a counter-clockwise direction.

6. Microswitch actuation point may be monitored during the adjustment procedure detailed in steps 4 and 5 by an audible click or with an ohmmeter before connecting line power to the terminal strip, or by monitoring the voltage supplied to the load through the microswitch.
7. If the system flow rate is changed, the Q-5 can be adjusted to monitor the new flow rate by turning the adjusting screw in a counter-clockwise direction to the minimum flow position and then proceeding as in 4 and 5 above.
8. In the event that the system flow is at the desired rate and the adjustment mechanism runs out of



# MODEL Q-5

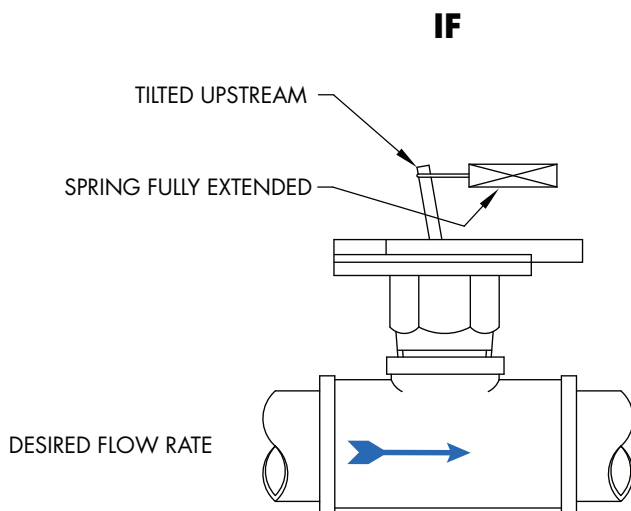
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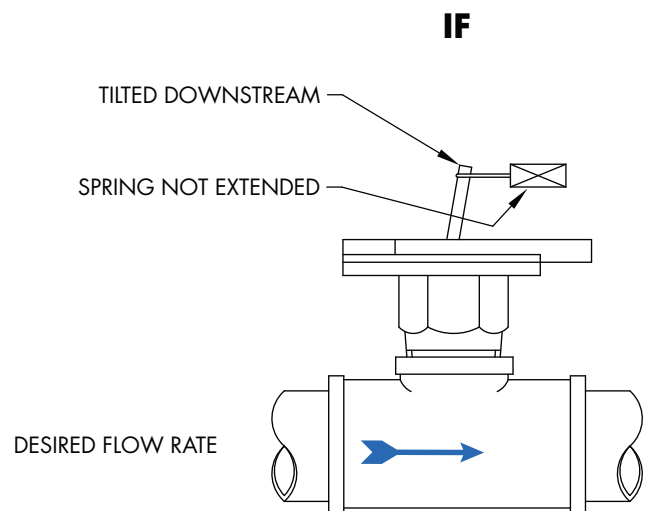
travel (e.g., the lead screw nut is at either end of the support bracket before the microswitch is actuated), then the drag disk must be changed to shift the flow switch flow range so that it straddles the system flow rate.

Example: If the Q-5 is fitted with a #2 drag disk and procedure 4 has been followed, the adjusting lead screw has been turned clockwise until the lead screw nut is at the extreme end of the support bracket and the microswitch has still not been actuated, then the flow is too low and different drag disk must be substituted and procedure 4 repeated.

## GENERAL RULES FOR SELECTING A NEW DRAG DISK



THEN REPLACE DRAG DISK  
WITH NEXT SMALLER SIZE



THEN REPLACE DRAG DISK  
WITH NEXT LARGER SIZE

### Drag Disk Change

1. Remove the flow switch from the pipe line.
2. Remove the small screws attaching the drag disk target to the feed thru shaft.
3. Replace the old target with a new one and tighten the screws.

### Terminal Strip Wiring

1. Loosen the round gland nut located on the electrical cable fitting.
2. Insert the cable through the grommet in the electrical cable fitting and tighten the gland nut sufficiently to seal the cable in place.
3. Strip the conductor ends approximately  $\frac{3}{16}$ "
4. Loosen the appropriate terminal strip screw and remove the empty terminal. Insert bare wire in terminal barrel and crimp. Place terminal strip in SAME orientation as received. This is IMPORTANT, since terminals and wires may interfere with the cover if the orientation is changed.